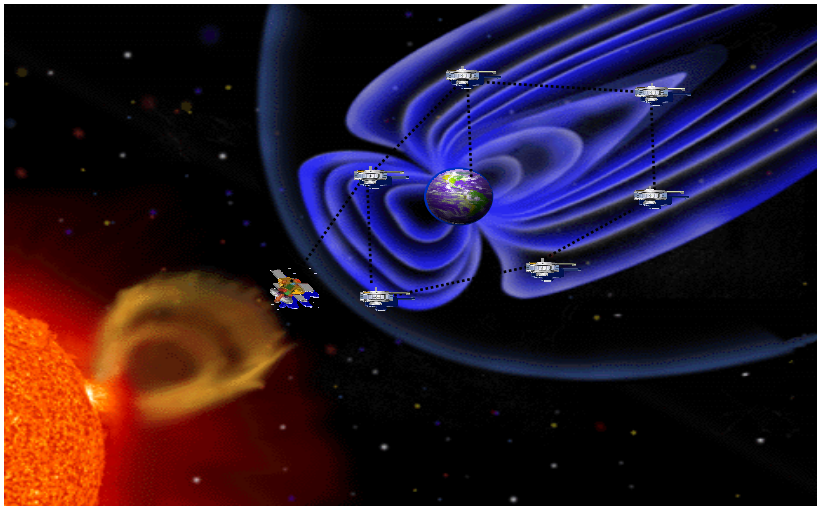
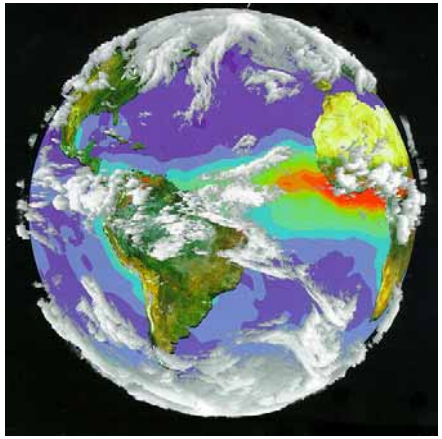
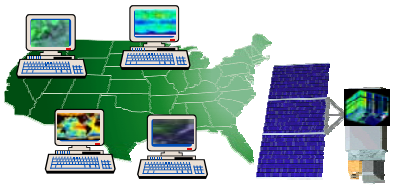
Information Systems Division / 580



Advanced flight and scientific information systems will support the execution and analysis of the scientific measurements and observations of the Earth and the Sun-Earth system.





Interoperable Models

December 16, 2004
All Hands Meeting

Agenda

- State of the Information Systems Division/Review of 2004 - Barb Pfarr
- Tools and Resources for Software Implementation - Sally Godfrey
- 580's Adaptive Sensor Fleet Project and the B23 Courtyard Project - Jeff Hosler/Julie Loftis
- What's Happening at Wallops Island – Leigh Gatto
- Lessons Learned on a detail to HQ - Barb Pfarr
- Adjourn

We have:

- **A new Center Director**
- **A newly-forming Science Directorate**
- **A TDB NASA Administrator**
- **Uncertainty about Hubble Servicing**
- **Uncertainty about all budgets**
- **Uncertainty about our role in Exploration**

ISD Mission

Amongst all this change, let's remember that …

We provide high value mission information systems products, expertise, and services, and to innovate and apply information technologies for GSFC science missions, measurements, and analysis.

And we do it very well! (proofs: Swift, Aura, Infocus, EO-1 Technology experiments, progress in cFE, initial SPI asset baselining…)

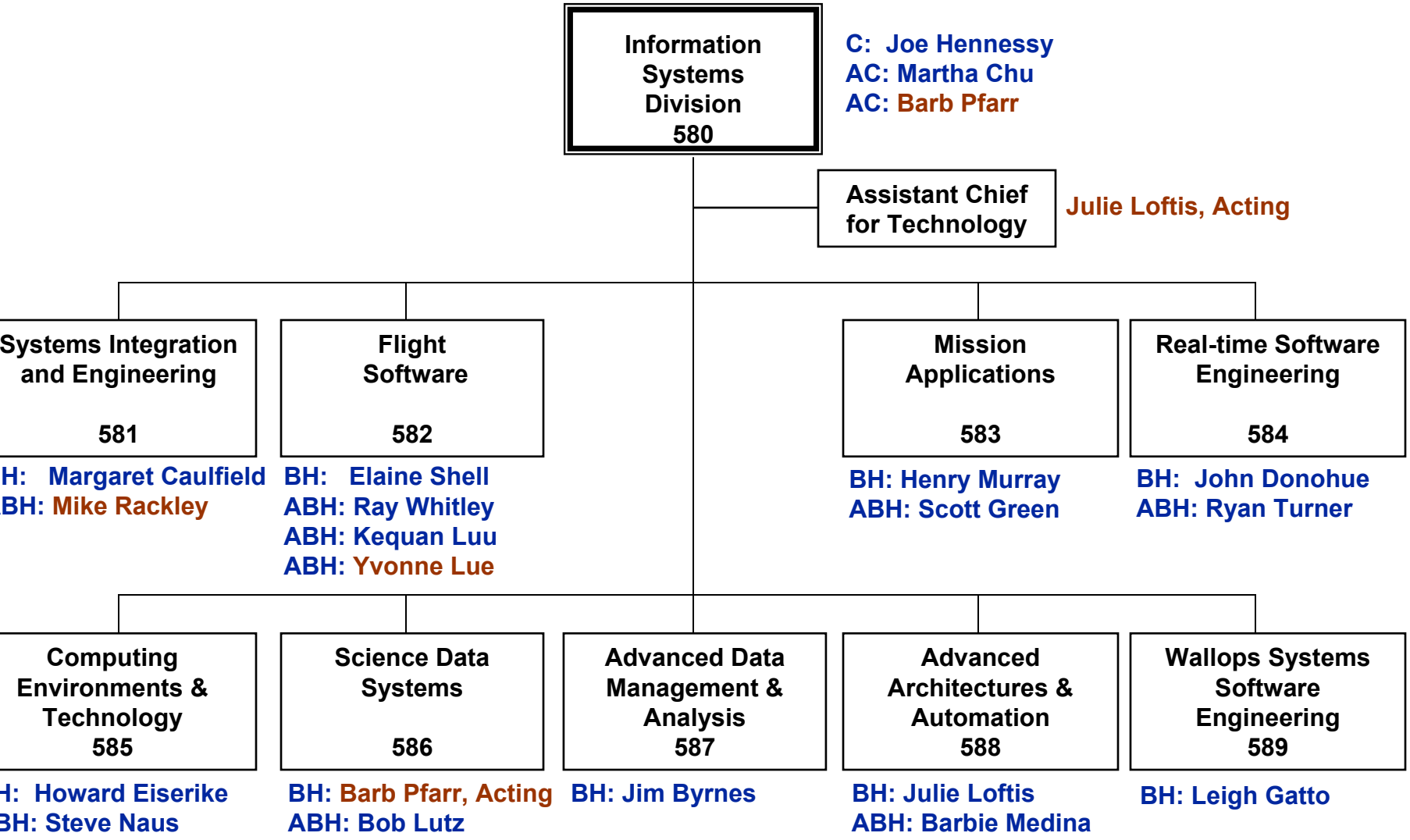
ISD Vision

Regardless of the uncertainly, this vision still holds…

The ISD is

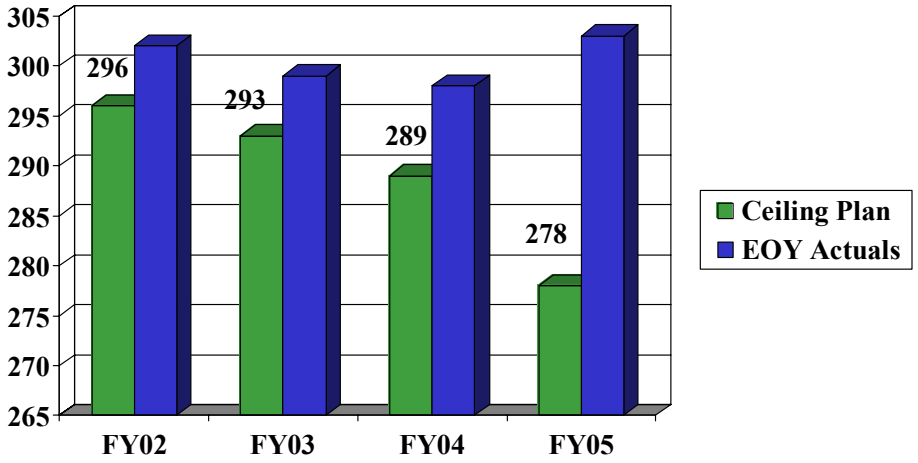
- **Valued by flight projects and other customers for providing high-quality full capability information system products, expertise, and services on time and on budget**
- **Forward looking to anticipate and meet future mission information system needs and opportunities in innovative and beneficial ways**
- **Sought after as a value-added partner for enabling new missions and science systems**
- **Recognized for effective quality software processes & practices**
- **Seen as a great place to work with an expert and energized workforce of employees and managers dedicated to customer success**

Information Systems Division (ISD/580) Organization

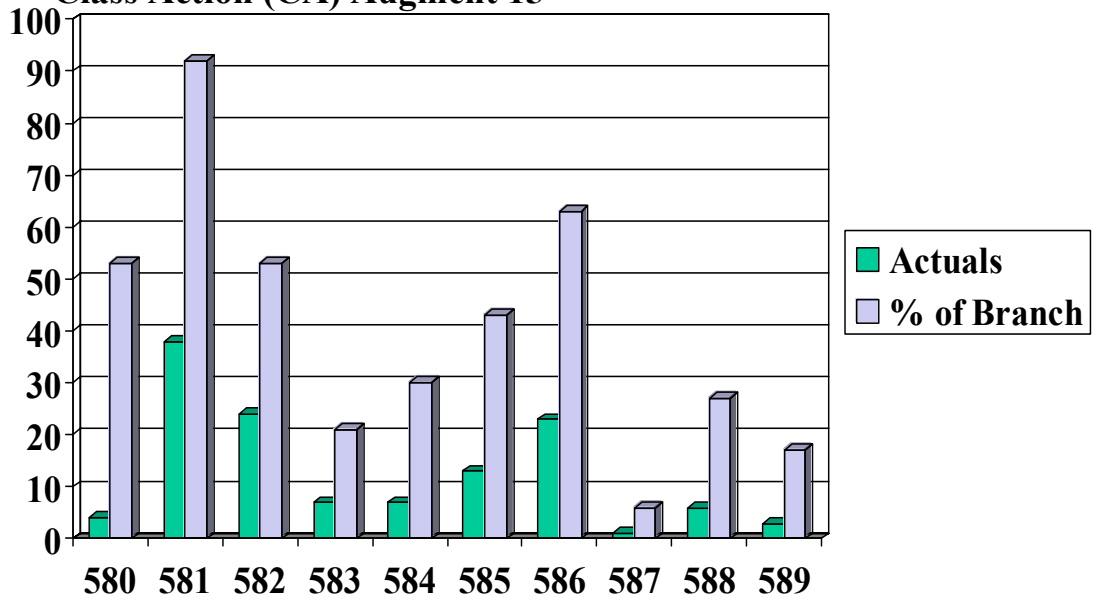


Revised 12/14/04

ISD Ceiling & Senior Positions Look



Senior Position FY04
FY05 Goal 130; Actuals as of 11/25/04 127
Class Action (CA) Augment 15

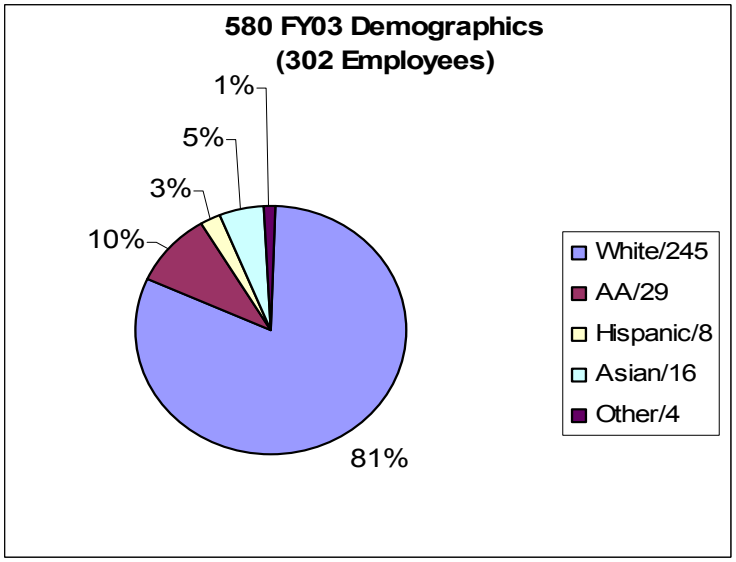


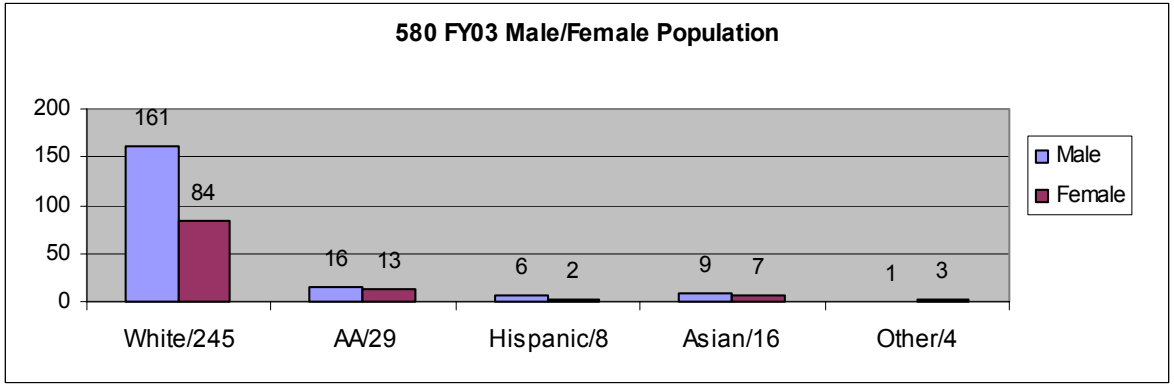
Senior Hire & Accretes*

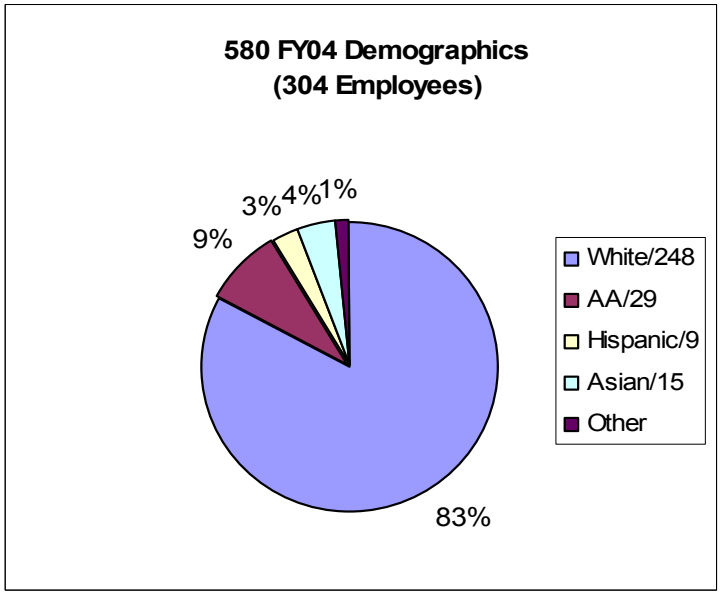
Code	FY02	FY03	FY04
580		1	0
581	2+0	3	1+1
582	3+1	0	1+(2)
583	0	0	(1)
584	1	1	0+1
585	0	0	0
586	1	2	1+1+(1)
587	0	0	0
588	0	0	0
589	0	0	0
TOTAL	6	7	6+(4)

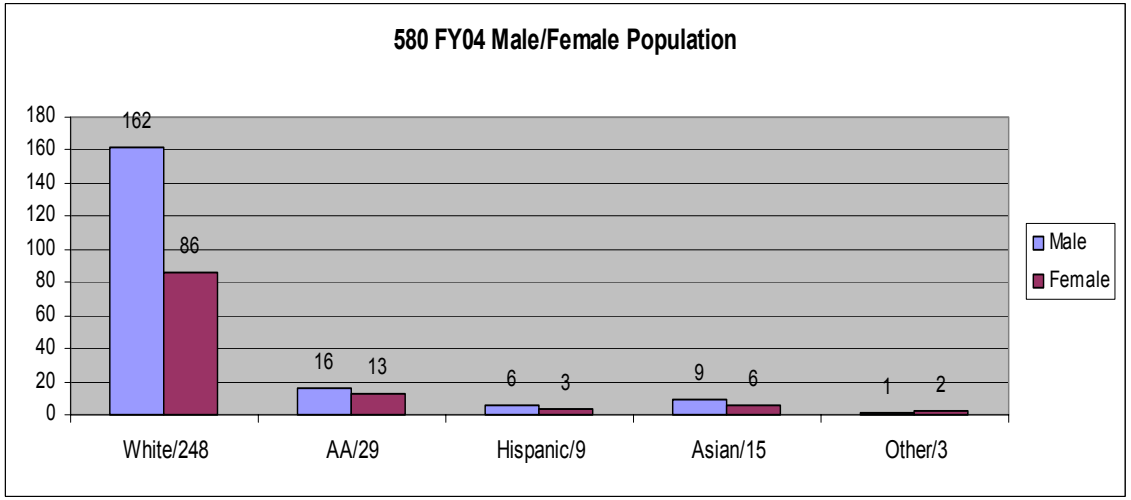
*** - w/o 3 NEX positions**
- Non-CA
and (n) are # of Project funded terms

580 2003 & 2004 Demographics









Actual FY04 Hire Picture

	Code	Non FOut	Coop Cnv	FOuts	Corp. FOs	Proj. Funded Terms	
	580	0	0	0	0	0	
	581	1	0	0	0	1	
	582	1	0	0	1	2	
	583	0	1	0	1	1	
	584	0	0	0	0	0	
	585	0	0	1	0	0	
	586	1	0	0	0	1	
	587	0	1	0	1	0	
	588	0	0	1	0	1	
	589	0	1	0	0	0	
Totals:		3	3	2	3	6	17

FY05 Hire Picture

Code	Non FOut	Coop Cnv	FOuts	Corp. FOs	Proj. Funded Terms	
580	1	0	0	0	0	
581	2	0	0	0	1	
582	2	0	1	1	3	
583	0	0	0	0	0	
584	0	0	0	1	0	
585	0	0	0	0	0	
586	0	0	0	1	0	
587	0	1	0	0	0	
588	0	2	0	1	0	
589	0	1	1	0	0	
	5	4	2	4	4	19

Notable/Near-Term Personnel Actions...

The Code 580 Assistant Chief Technologist position is in process.

Barb Pfarr was selected Associate Chief/580.

Mike Rackley/581 and Yvonne Lue/582 were selected as Associated Branch Heads.

The Code 586 Branch Head position to be posted Jan 2005.

… and ISD FY04 Excellence Recognition

- **Engineering Excellence Awards**
  - **Ji-Wei Wu/582 for outstanding MESSENGER Mercury Laser Altimeter instrument flight software contributions**
  - **Linda Jun/583 for excellence in the development of flight dynamics software that advanced the Swingby and GMAT mission analysis tools**
  - **Glenn Cammarata/SSI, for excellence and leadership in the adaptation and use of modern methodologies and tools in the JWST Integrated Science Instrument Module flight software development**

- **Best Technical Paper Awards**
  - **Jane Marquart/582 for "Standard Spacecraft Interfaces and IP Network Architectures: Prototyping Activities at the GSFC"**

- **Technology Leadership Award**
  - **Daniel Mandl/584 for achievements in securing technology funding, and his successful technology development and infusion and his initiative in partnering with external organizations for the purpose of technology development and infusion.**

… and External Excellence Recognition

- **Troy Ames/588 was recognized with the FY04 GSFC Excellence in Information Science and Technology (IS&T) Award for IRC framework**

- **Robin Pfister/586 won honorable mention in NASA's Software of the Year Award for ECHO**

- **Linda Jun/583 was recognized with the FY04 AETD Excellence Award for Engineers**

- **Kevin Hartnett/586 was recognized with the FY04 Baltimore Federal Executive Board (BFEB) Excellence in Federal Career – Silver Award for Community Service**

- **The Operating Missions as Nodes on the Internet (OMNI) Team was recognized with the FY04 AETD Science & Technology Advancement Award**

… and External Excellence Recognition cont'd.

- **Larry Hull/588 was recognized with the FY04 Equal Employment Opportunity Medal**

- **Bonita Seaton/581 was recognized with the FY04 Exceptional Achievement Medal**

- **John Donohue/584 was recognized with the FY04 GSFC Honor Award for Outstanding Management**

- **Mike Seablom/586 was recognized with the FY04 GSFC Honor Award for Outstanding Leadership**

FY04 Papers/Presentations

A Modular, Data Driven System Architecture for GSFC Ground Systems
Danford Smith, Everett Cary

Low-Cost Re-Architecting of NASA's TRMM Mission Control Center
Lori Enright, Charlie Bengston, Ronald Jones

Properties of a Formal Method to Model Emergence In Swarm-Based Systems
James Rash, Walt Truszkowski, Mike Hinchey, Christopher Rouff, Amy Vanderbilt

Using CMMI for Improvement of GSFC - Sally Godfrey

CCSDS File Delivery Protocol for Flight Applications - Art Ferrer

XML in an Adaptive Framework for Instrument Control - Troy Ames

Experimenting with Sensor Web Using Earth Observing 1 - Dan Mandl

Some Autonomic Properties of Two Legacy Multi-Agent NASA Systems – LOGOS and ACT
Walt Truszkowski, James Rash, Mike Hinchey, Christopher Rouff

FY04 Papers/Presentations cont'd

Flying the Earth Observing Constellations -Angelita Kelly, Warren Case

Network Performance Measurements for NASA's Earth Observation System
Jeff Smith, Joe Loiacono, Andy German

Science Goal Monitor – Science Goal Driven Automation for NASA Missions
John Jung, David Matusow, Anuradha Koratkar, Sandy Grosvenor, Melissa Pell

Optimizing Satellite Communications with Adaptive and Phased Array Antennas
Dan Mandl, Mary Ann Ingram, Robert Romanofsky, Richard Q. Lee, Felix Miranda, Zoya Popovic, John Langley

Verification of NASA Emergent Systems
James Rash, Mike Hinchey, Walt Truszkowski, Amy Vanderbilt, Christopher Rouff

NASA's Swarm Missions: The Challenge of Building Autonomous Software
Mike Hinchey, James Rash, Walt Truszkowski, Christopher Rouff

Fleet Integration for Multi-Mission Operations Center
Maureen Madden, Everett Cary, Jeff Parker, Dave Bradley

ISD Combined Federal Campaign Keyworkers

- 580/585Ann Carbin
- 581Gary Meyers/Mo Madden/Carlos Gomez-Rosa
- 582Nancy Goodman
- 583Lucy Pagan
- 584Donna Schimming
- 586Kathi Thomas
- 587Jason Reardon
- 588Carolyn Wisenauer
- 589Amy Taylor

Your Skill, Flexibility, and Energy Is Essential ...

- **Areas in need of help include FSW, Science Labs, NESC, Exploration: Consider a career adventure and help fill important roles !**
- **Join in and make GMSEC, ASF or Robotics a success !**
- **We did excellent work in 2004 as proven by Swift and Aura launches and INFOCUS flight - let's keep it up! Let's make sure GLAST, ST-5, and GOES N and O are just as successful!**
- **We have specific goals for SPI: FSW at Level 2 by end of FY 05, Level 2 for everyone by end of FY06. Join in the effort to make it right !**
- **Our future is rich with exciting missions ranging from LRO, and Hubble HRV through SDO and onto MMS, OOO, JWST & LISA**
- **Personal & organizational flexibility/agility with domain diversity & skills at working several concurrent efforts shall become *even more important***

Step up to help fill GSFC needs...

Your efforts shall get recognized !